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Allain, Jr. et al.

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(54) **RAMP APPARATUS AND METHOD FOR USE WITH MOTOR VEHICLE FLOOD PROTECTION BAG**

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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(21) Appl. No.: **10/122,370**

(22) Filed: **Apr. 16, 2002**

Related U.S. Application Data

(62) Division of application No. 09/444,862, filed on Nov. 22, 1999, now Pat. No. 6,393,806.

(60) Provisional application No. 60/111,276, filed on Dec. 7, 1998.

(51) **Int. Cl.⁷** **E01D 1/00**

(52) **U.S. Cl.** **14/69.5; 404/35**

(58) **Field of Search** 105/436; 52/153; 296/136; 53/384.1, 390, 393; 414/430; 14/69.5; 405/302.4, 302.6; 404/35

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(57) **ABSTRACT**

A ramp apparatus and method for insertion of a four-wheel vehicle into a plastic flood protection car bag which comprises a ramp device having a pair of up-ramp surfaces, a pair of top surfaces and a pair of down-ramp surfaces, and car bag securements on the top surfaces for holding an open edge of the car bag while the four-wheel vehicle is rolled on the up- and down-ramp surfaces and into the car bag.

7 Claims, 5 Drawing Sheets

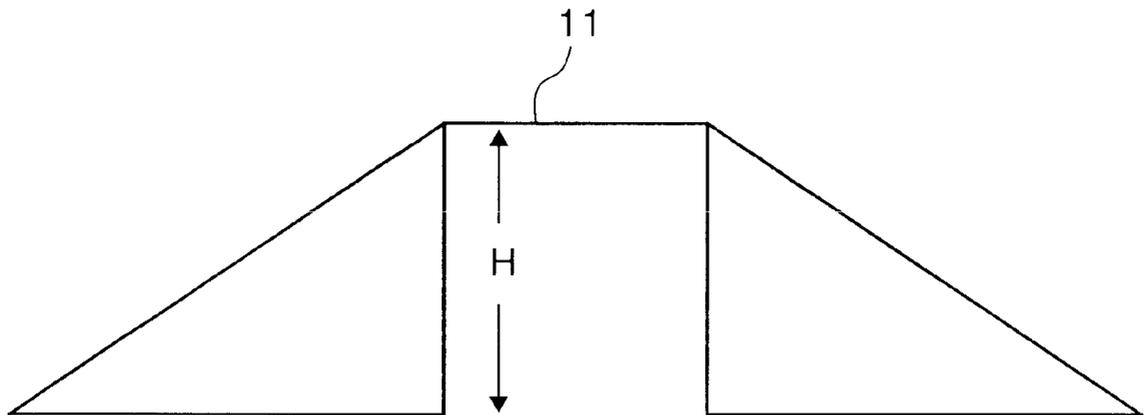


FIG. 1

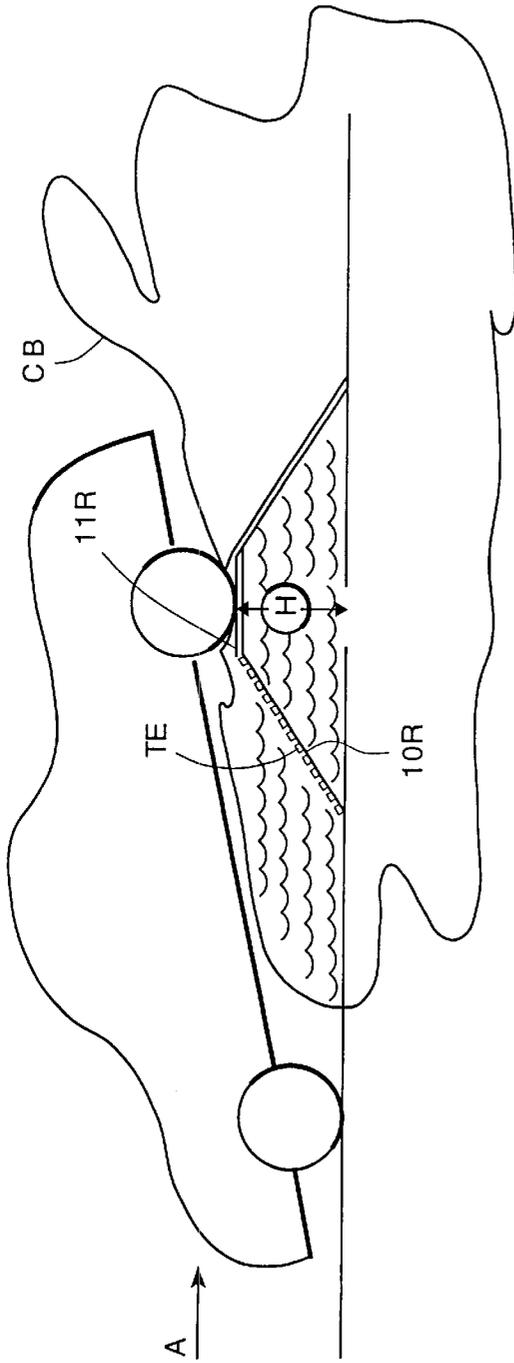


FIG. 2

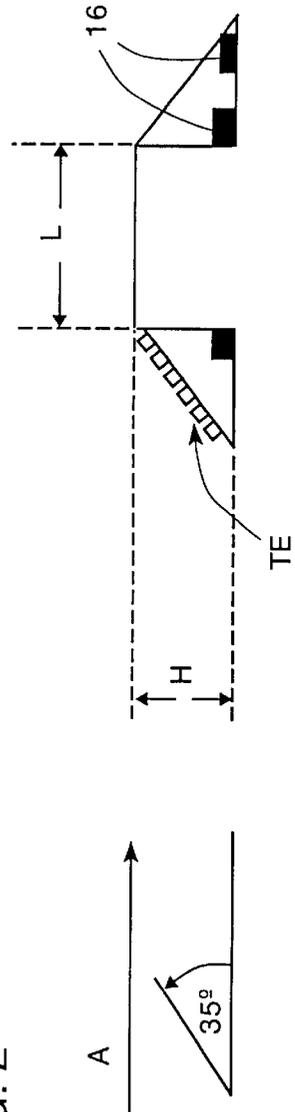


FIG. 3A

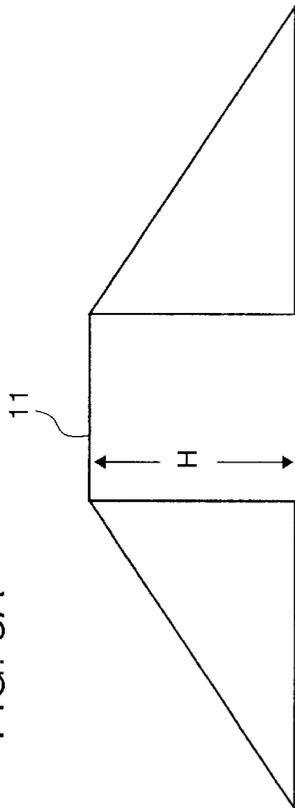


FIG. 3B

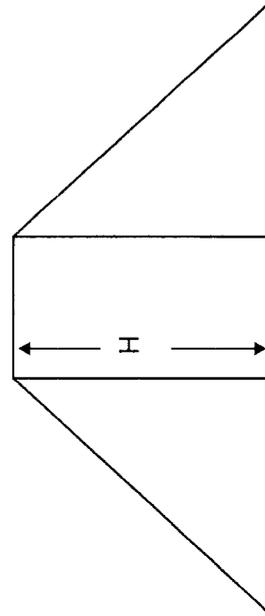


FIG. 3C

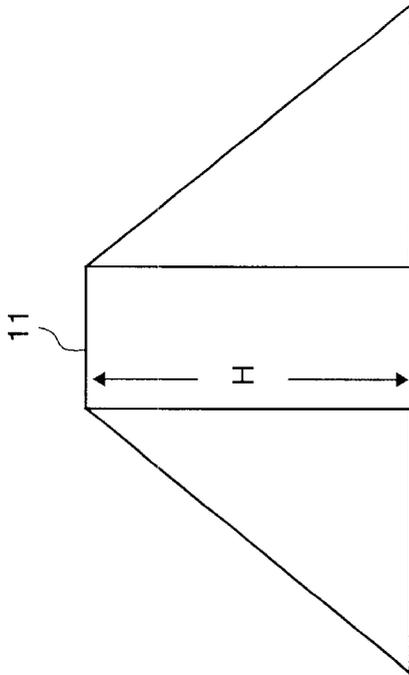


FIG. 4

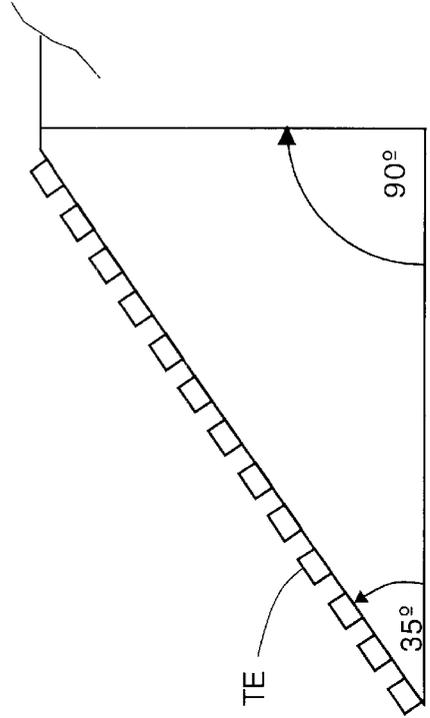


FIG. 5

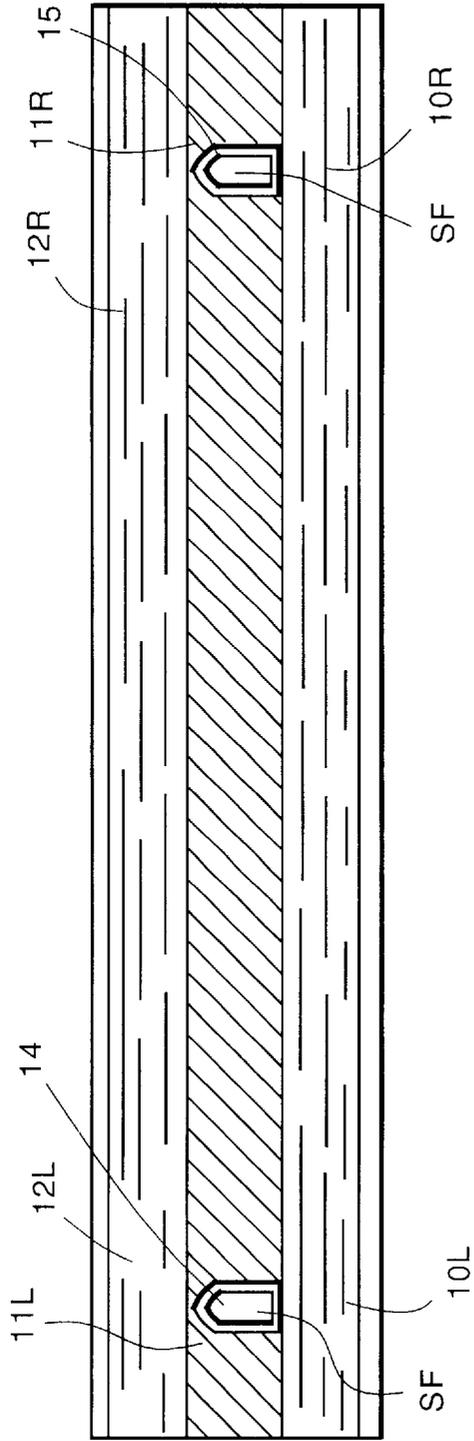


FIG. 6

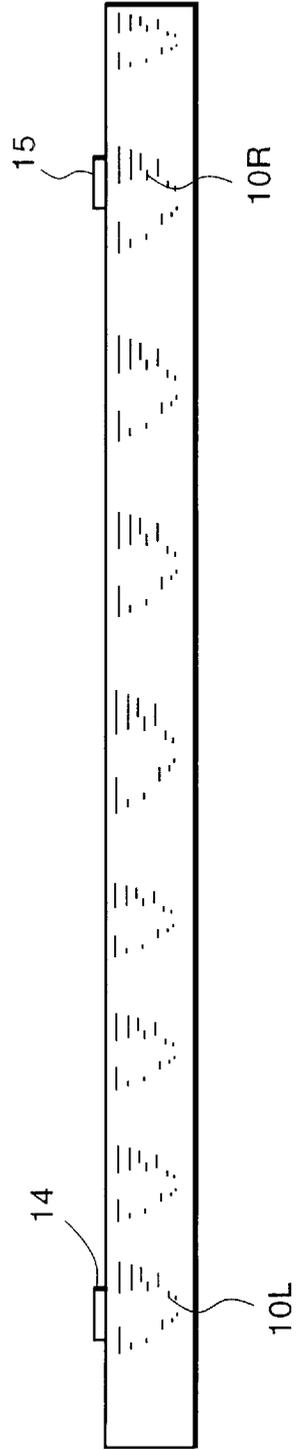


FIG. 7A

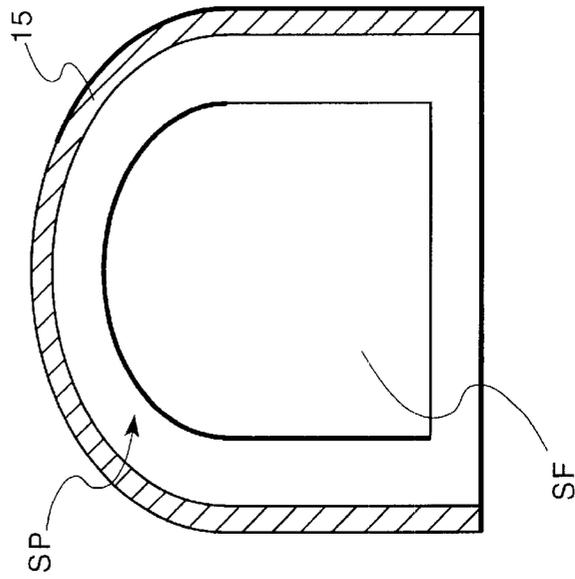
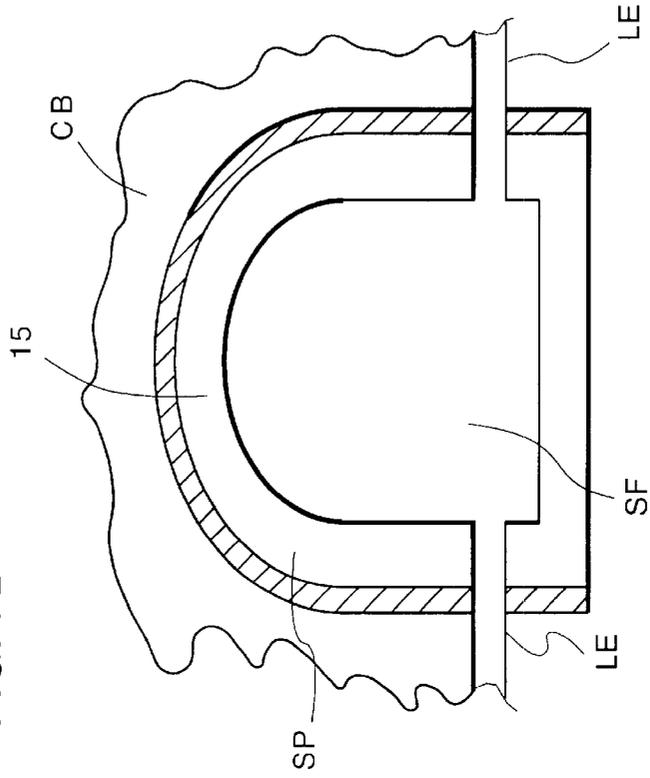


FIG. 7B



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RAMP APPARATUS AND METHOD FOR USE WITH MOTOR VEHICLE FLOOD PROTECTION BAG

REFERENCE TO RELATED APPLICATION

This is a division of our U.S. application Ser. No. 09/444,862 filed Nov. 22, 1999 which issued as U.S. Pat. No. 6,343,806 on May 28, 2002 and is based on provisional application Ser. No. 60/111,276 filed Dec. 7, 1998.

BACKGROUND AND BRIEF DESCRIPTION OF THE INVENTION

In our patent application Ser. No. 08/660,663 filed Jun. 5, 1996 for MOTOR VEHICLE AND VALUABLE POSSESSION FLOOD PROTECTION APPARATUS AND METHOD; in our continuation-in-part application Ser. No. 09/014,995 filed Jan. 28, 1998 for MOTOR VEHICLE PROTECTION APPARATUS AND METHOD; and in our application Ser. No. 09/102,667 filed Jun. 23, 1998 for AUTOMOBILE FLOOD PROTECTION SYSTEM AND METHOD, as well as other pending applications, we disclose vehicle flood protection apparatus and methods in which four-wheel vehicles are rolled into a plastic bag and then the open end of the bag is sealed such that the bag with the vehicle in it floats. The bag is tethered or anchored to a stationary object and thus thereby protected from damage by flood waters. Typically, the bag is placed on a flat surface such as a driveway, and then the open end held open while the vehicle is rolled or driven into the bag through the open end. Then the open end of the bag is rolled up on a rod and sealed by clamps or other seal system and then anchored, preferably at both ends, such that when flood waters arrive the vehicle is protected from damage by flood waters.

The present invention deals with the situation where the flood waters have accumulated a few inches or more and cover the ground. In this situation, the present invention provides a two-sided ramp device having an up-side ramp, a top surface above the water accumulation at the time of use and a down-side ramp. The top surface preferably carries one or more clips or one element of hook-and-loop fasteners. The open end of the flood protection bag is secured under the clip or carries a opposite element of the hook-and-loop fastener system so that the lower edge of the open end of the bag is held or maintained stationary while the bag is held maintained open. The car or vehicle is then driven up the up-side ramp and into the bag and down the down-side ramp of the ramp device, with the front wheels and then continuing into the bag with the rear wheels coming up the up-side ramp and down the down-side ramp on the opposite side, and then the bag is closed as described in the above patent applications. Care is taken to be sure that the ramp height is approximately one inch below the undercarriage of the vehicle.

DESCRIPTION OF THE DRAWINGS

The above and other objects, advantages and features of the invention will become more apparent when considered with the following specification and accompanying drawings wherein:

FIG. 1 is a side elevational view of a car bag ramp incorporating the invention,

FIG. 2 is a side elevational view of an embodiment of the invention,

FIGS. 3A, 3B and 3C illustrate different heights of the ramp,

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FIG. 4 is a side elevational view of a further embodiment of the invention,

FIG. 5 is a top plan view of the ramp according to the invention,

FIG. 6 is a front elevational view of a ramp incorporating the invention, and

FIGS. 7A and 7B are enlarged views of clamps or clips incorporated in the invention.

DETAILED DESCRIPTION OF THE INVENTION

The invention is particularly adapted for use with car bags for protecting vehicles against flood waters, particularly when there has been a sudden accumulation of a few inches or more of water which covers the ground. The ramp of the present invention is a two-sided vehicle ramp having an up-side ramp surface top surface for attachment of the car bag at the lower edge thereof, and a downside ramp surface to allow the vehicle to be driven off of the ramp and into the car bag and then the car bag is sealed in the manner disclosed in our above referenced patent applications.

Although the car ramp is shown as being integral, it will be appreciated that a pair of separate and discrete left and right wheel ramps can be used in the practice of the invention.

Referring to the drawings, the car bag ramp device of the invention has up-ramp surface sides **10L**, **10R** which may be corrugated or roughened for traction purposes or have traction inducing or enhancing means thereon **TE**, and flat upper surfaces **11L**, **11R** which have bag clips or securement means to be described more fully hereinafter, down-ramp sides **12L**, **12R**. The ramp surfaces **10L** and **10R** are spaced apart a given distance corresponding to the spacing between typical vehicle wheels, but in any case wide enough for a given vehicle to engage the up-ramp surfaces **10L**, **10R** by the front wheels simultaneously. The top surfaces **11L**, **11R** are planar or flat and have clips or bag-securement means **14** and **15** (see FIG. 5) to which the lower front edge of the car bag **CB** disclosed in our above-identified patent applications is attached. The attachment clips **14**, **15** may be spring clips having spring fingers **SF** under which the edge **FE** of the car bag **CB** is slipped (space **SP** between the spring fingers **SF** and the edge of the attachment clips are provided for insertion of the lower edge **LE** of the car bag **CB** as shown in FIG. 7B.) and held in place so that the upper edges of the bag can be held open while the car or vehicle is driven into the bag.

FIG. 5A shows the clip in the enlarged view. A space between the clip spring fingers **SF** for insertion of the lower edge of the bag, and a metal, rubber or plastic cone which is adapted to apply spring pressure on the inside surface of the front edge of the car bag. While in FIGS. 4 and 5 the car bag ramp is shown as a integral one-piece member, it will be appreciated that can be formed in two sections spaced sufficient to accommodate the spaced wheels of a vehicle. Lead or sandbag weights **16** may be used for stability.

Instead of spring clips, hook-and-loop type fasteners may be used with one of the hook-and-loop elements being secured to the front lower edge of the car bag. The ramps can be made of metal, plastic, fiberglass or wood or combinations of these materials. The hollow spaces can be used to store the plaster car bag.

Directions for Using the Car Bag Ramp

When flood water has already accumulated in an area where the user desires to protect the car in a car bag **CB**, use

of the car bag ramp will be helpful to place the car in the car bag with minimal entrance of flood water into the bag.

1. Select a ramp that is higher than the level of the water (preferably by one or two inches). In one preferred technique, if water is moving, position the entrance end (10L, 10R) of the ramp (side with cleats) on the opposite side to the direction of water movement, i.e., enter the bag in the opposite direction to the water current flow (arrow A).
2. Place the lower edge of the bag opening in the clips 14, 15 provided at both sides of the ramp.
3. Allow for some looseness in the lower bag layer adjacent to the ramp (6 to 12 inches), depending on flood water heights, so that as the car (vehicle) enters the bag, excess tension will not be placed on the bag edge in the clips as the car rolls down from the ramp height.
4. After the car (vehicle) is in the bag, remove the ramp devices immediately, fold the open end of the bag according to directions provided with the bag and clamp the bag closed.

While the invention has been described in relation to preferred embodiments of the invention, it will be appreciated that other embodiments, adaptations and modifications of the invention will be apparent to those skilled in the art.

We claim:

1. A ramp device and a plastic flood protection car bag (PFPCB) having an open end, said PFPCB comprising:
 a ramp device having a pair of up-ramp surfaces, a pair of top surfaces and a pair of down-ramp surfaces,

car bag securement means on said top surfaces for holding an open edge of said car bag above prevalent flood water level while a four-wheel vehicle is rolled on said up- and down-ramp surfaces and into the open end of said car bag.

2. The ramp device defined in claim 1 wherein said top surfaces are a predetermined distance above ground and a predetermined distance below the undercarriage of said vehicle.

3. A ramp apparatus and a plastic flood protection car bag having an open end with a bottom edge comprising: a ramp device having a pair of up-ramp surfaces, a pair of top surfaces and a pair of down-ramp surfaces, and car bag securement means on the top surfaces for holding said bottom edge of the car bag above prevalent flood water level while a four-wheel vehicle is rolled on the up- and down-ramp surfaces and into the open end of said car bag.

4. The ramp apparatus defined in claim 3 wherein said securements including spring clips having spring fingers.

5. The ramp device defined in claim 3 wherein the ramp apparatus is made of material selected from metal, plastic or wood.

6. In combination, a ramp device and plastic flood protection car bag having an opening and a lower edge on said opening, said ramp device having attachment clips for insertion of the lower edge of the car bag so that the upper edges of the car bag can be held open while a vehicle is driven into the car bag above prevalent flood water level.

7. The ramp device defined in claim 6 including weight means for holding said ramp device stable in flood waters.

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